



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/540,499

04/17/2006

Matti Ravaska

18901

4209

67844 7590 01/30/2009
ARIZONA CHEMICAL COMPANY
c/o Bo Segers
P.O. Box 550850
Jacksonville, FL 32255

EXAMINER

CALANDRA, ANTHONY J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

01/30/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,499	Applicant(s) RAVASKA, MATTI	
	Examiner ANTHONY J. CALANDRA	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1791

Detailed Office Action

1. The communication dated 7/9/2008 has been entered and fully considered.
2. Claims 1-20 have been amended. Claim 21 is new. Claims 1-21 are currently pending.

Art Unit: 1791

Claim Objections

3. In light of amendment the objection has been withdrawn.

Claim Rejections - 35 USC § 112

4. In light of amendment the 112 2nd rejections have been withdrawn.

Claim Rejections - 35 USC § 101

5. In light of amendment the 101 rejection has been withdrawn.

Response to Arguments

6. Applicant argues that be amending instant claim 1 that claims 1-16 are allowable over MAGEE, Tall Oil Fatty Acids and Relative Substances by PCA, under both 35 USC 102 and 35 USC 103 rejections.

Specifically applicant amended the limitation to state “*wherein said fatty acid component is blended together with said rosin acid component to produce said cooking aid*”. Applicant contends that neither MAGEE or PCA teach the *blending* of the fatty acid and rosin components. This argument is unconvincing because claims 1-16 are product claims. The process of making said product, in the instant case, by blending, is not consequential unless the process of making said product imparts special properties to said product. A rejection under 25 USC 102/103 is proper in these cases [see e.g. MPEP 2113 Product-by-Process Claims].

“[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith.” In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

Art Unit: 1791

Further examiner notes that when a structure (composition) of a prior art is found to be substantially similar to the claims any claimed properties are presumed to be inherent [see e.g. MPEP 2112.01 (I)-(II)].

In instant claim 17 applicant claims the process of making the wood cooking aid of instant claim 1. Applicant states that a fatty acid component is *blended* with a rosin acid component to produce a fatty acid rosin mixture. It is the examiners position that if a composition is known to exist and contain various components, that it would be well within the skill of a person of ordinary skill in the art to mix said individual components to obtain the final composition. Further, the selection of order of mixing ingredients *prima facie* obvious [see e.g. MPEP 2144.04 (IV) (C) Changes in Sequence of Adding Ingredients]. Therefore mixing two components together, treating them and using them is obvious over starting with the two components pre-mixed absent evidence of unexpected results.

Finally examiner notes that MAGEE and PCA both disclose multiple compositions of tall oil products which are disclosed to be beneficial for differing products [MAGEE pg. 322 Table 1 and PCA pg. 11]. At the time of the invention it would have been *prima facie* obvious to combine two of the tall oil compositions in combination known to be useful as surfactants [see e.g. MPEP 2144.06 (I) Combining Equivalents Known for the Same Purpose]. This would in effect ‘blend’ rosin acids with fatty acids, thus meeting the limitation of the claim.

In claim 20, applicant argues that neither MAGEE, PCA or NAKATA alone or in combination teach that said “*said fatty acid component is blended together with said rosin acid component to produce said cooking aid*”. Examiner notes that while claim 20 is a process claim and as such blending would be a step that acts as a limitation, the limitation is **not** recited in

Art Unit: 1791

instant claim 20 or dependent claim 21. Therefore the argument is moot as the argument is not commensurate with the claim.

Claim Rejections - 35 USC § 112

7. In view of amendment the 112 2nd rejections have been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

Art Unit: 1791

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-9, 13-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over *Composition of American Distilled Tall Oils* by MAGEE et al, henceforth referred to as MAGEE.

Art Unit: 1791

As for claim 1, the use of a mixture of fatty acids and rosin acids forming a cooking aid for removing extractives from pulp is an intended use. MAGEE et al. teaches a distilled tall oil which is a mixture of fatty acids and resin acids (resin acids are rosin acids) and which have less than 5% unsaponifiables (*A wood cooking aid comprising a fatty acid component and a rosin acid component and/or salts thereof wherein said fatty acid component is blended together with said rosin acid component to produce said cooking aid, and wherein said cooking aid comprises about 70 to about 2% fatty acids, and about 20 to about 98% rosin acids* [see e.g. Table 1 Tall oil sample Hxs has 29% fatty acids, 67% Resin acids and 4.1% neutrals which are unsaponifiables]). The mixture of fatty acids and rosin acids falls within the instant claimed range. The process of making said product, in the instant case, by blending, is not consequential unless the process of making said product imparts special properties to said product. A rejection under 25 USC 102/103 is proper in these cases [see e.g. MPEP 2113 Product-by-Process Claims].

As for claim 2, tall oil sample Hxs of MAGEE et al. teaches a neutrals content of less than 5% which anticipates the preferred instant claim [see e.g. table 1].

As for claim 3, tall oil sample Hxs of MAGEE et al. teaches 29% fatty acids, 67% Resin acids which falls within the instant claimed range [see e.g. table 2].

As for claim 4, the tall oil sample Hxs of MAGEE et al. has resin acids including oil rosin acids, including abietic acid, dehydroabietic acid and palustrie acid [see e.g. table 3 sample Hxs].

Art Unit: 1791

As for claim 5, the tall oil sample Hxs of MAGEE et al. has pimaric acid and 8-15-pimaradienioc acid [see e.g. table 3 sample Hxs]. Examiner has interpreted 8-15-pimaradienioc acid to be equivalent to 8-15 pimaric acid.

As for claim 6, the fatty acids of MAGEE et al. are produced from tall oil [see e.g. abstract and 1st paragraph]. Tall oil is produced from trees which are vegetable matter.

As for claim 7, MAGEE et al. teaches that the tall oils contain oleic acid which is an unsaturated fatty acid [see e.g. Table 2].

As for claim 8, MAGEE et al. teaches that the tall oils contain oleic acid, linoleic acid and 18:3 fatty acid [see e.g. Table 2, 18:3 fatty acid is pinoleic acid]

As for claim 9, MAGEE et al. discloses, a conjugated fatty acid 18:2 (9,11 ct), and a cyclic fatty acid, pimaric acid [see e.g. Table 2, since the double bonds of the 18:2 fatty acid alternate carbons, it is a conjugated fatty acid].

As for claim 13 and 14, MAGEE et al. discloses multiple mixtures of distilled tall oils which contain fractions of fatty acids and rosin acids [see e.g. Abstract and 1st paragraph].

As for claim 15, MAGEE et al. discloses fatty acids with two unsaturated bonds and three unsaturated bonds and 20 carbon atoms [see e.g. Table 3 C20:2 and C20:3]. MAGEE et al. does not explicitly disclose the location of the unsaturated bonds on the 20 carbon chain fatty acids. Since the fatty acids taught by MAGEE et al. are produced in tall oil as are the fatty acids the instant application it is the examiners position that the C20 fatty acids of MAGEE et al. would

Art Unit: 1791

include at least some fatty acids with the bond location of 5,11,14-C20-3 and 11,14-C20:2.

Please see MPEP 2112.01.

As for claim 16, MAGEE et al. discloses tall oil fatty acids, tall oil rosin, and other distillation cuts [see e.g. Abstract and 1st paragraph].

9. Claim 10, 11, 12, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Composition of American Distilled Tall Oils* by MAGEE et al. as applied to claims 1-9 and 13-16 above, in view of *Tall Oil Fatty acids and Relative Substances* by Pine Chemical Association, or PCA.

As for claim 10, PCA teaches monomer fatty acids [see e.g. pg. 10 Table 4] that contain less than 1% saponifiable material. Monomer fatty acids are produced as side products from the dimerization reaction (*fatty acids comprise the monomer part produced during dimerization of fatty acids* [see e.g. pg. 10]). At the time of the invention it would have been prima facie obvious to combine the distilled tall oils of MAGEE and the dimmer produced fatty acids of PCA. A person of ordinary skill in the art would expect that both could be used for surfactants [see e.g. PCA pg. 11 B] as both compositions contain fatty acids. PCA additionally states that fatty monomer acids have some of the same characteristics of Tall oil fatty acids [pg. 10 paragraph 1]

As for claims 11 and 12, PCA discloses 12% oleic acid which examiner has taken to be ‘about 19% oleic acid’ and further discloses 28% branched C18 acids. The instant claim discloses between 27% and 31% branched C18 acids with approximately 50% being from

Art Unit: 1791

branched oleic and 50% being branched stearic acid [13%-16% branched oleic plus 14 to 16% branched stearic]. It is the examiners position that since the prior art contains the same amount of branched fatty acids as the instant claims and that the fatty acids are produced in the same way as by-products of dimerization that the prior art would obviously contain about 50% branched stearic to branched oleic acids. PCA discloses 54% other fatty acids [pg. 10 table 4] which is about 44% other fatty acids.

As for claim 17, MAGEE et al. teaches that various distilled tall oils which contain fatty acids and rosin acids which are able to remove extractives during pulp production [see e.g. Table 1]. MAGEE et al. does not teach that distilled fatty acids are converted into salts of the fatty acids/rosin acids.

PCA teaches that tall oil fatty acids salts are used as surfactants (also known as soaps) [pg. 3] and discloses the sodium salts of said fatty acids [pg. 5]. PCA further teaches that the soap is made by reacting it with the appropriate base [pg. 5]. Additionally PCA states that a strong base is used [pg. 10] and that the acid are hydrolyzed with OH⁻ [pg. 15]. The use of sodium hydroxide as a base would be obvious to a person of ordinary skill in the art as NaOH is a st base that contains both the requisite sodium and hydroxide ion. At the time of the invention it would have been obvious to a person of ordinary skill in the art to convert tall oil product fatty acids in fatty acid salts to convert them into surfactants. A person of ordinary skill in the art would be motivated to convert such an acid to make a surfactant.

It is the examiners position that if a composition is known to exist and contain various components, that it would be well within the skill of a person of ordinary skill in the art to mix said individual components to obtain the final composition. Further, the selection of order of

Art Unit: 1791

mixing ingredients *prima facie* obvious [see e.g. MPEP 2144.04 (IV) (C) Changes in Sequence of Adding Ingredients]. Therefore mixing two components together, treating them and using them is obvious over starting with the two components pre-mixed absent evidence of unexpected results.

10. Claim 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Composition of American Distilled Tall Oils* by MAGEE et al. in view of *Tall Oil Fatty acids and Relative Substances* by Pine Chemical Association, or PCA as applied to claim 17 above, and further in view of U.S. Patent 7,255,873 NAKATA, henceforth referred to as NAKATA.

Tall Oil Fatty acid and Relative Substances does not teach how the fatty acids are made into fatty acid salts other than reacting them with a base. NAKATA teaches a method for making fatty acids into fatty acid salts. It teaches that the fatty acid reaction zone is 80 –200 degrees C [see e.g. column 3 line 18-19] which overlaps with the instant claim of 100 deg C. NAKATA further teaches that the process is continuous [see e.g. abstract]. At the time of invention it would have been obvious to a person of ordinary skill in the art to produce the fatty acid salts of PCA with a method such as NAKATA. A person of ordinary skill in the art would be motivated to use the process of NAKATA on the fatty acid of PCA because NAKATA suggests that the process is useful on multiple fatty acids compositions including those with linoleic and oleic acid both of which are claimed as important acids of the instant invention.

11. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art, hereinafter AAPA, in view of *Composition of American*

Art Unit: 1791

Distilled Tall Oils by MAGEE et al., and if necessary, Handbook for Pulp and Paper Technologists by SMOOK, hereinafter SMOOK.

The AAPA discloses that Tall oil is used for deresinating birch wood during a cooking process [specification pg. 2 lines 5-10]. The AAPA does not disclose the composition of the tall oil. MAGEE et al. teaches a distilled tall oil which is a mixture of fatty acids and resin acids (resin acids are rosin acids) and which have less than 5% unsaponifiables [see e.g. Table 1 Tall oil sample Hxs has 29% fatty acids, 67% Resin acids and 4.1% neutrals which are unsaponifiables]]. The mixture of fatty acids and rosin acids falls within the instant claimed range.

At the time of the invention it would have been obvious to add the tall oil of MAGGEE to birch wood as described by the AAPA. A person of ordinary skill in the art would expect the tall oil of MAGGEE to also help remove extractives. Neither, AAPA or MAGEE disclose the common well known temperatures for cooking wood chips. It is the examiners position that an additional reference is not necessary for cooking temperature, however, should the applicant be unconvinced, SMOOK discloses the cooking temperature of 170 to 180 degrees C which falls within the instant claimed range. At the time of the invention it would have been obvious to cook the birch chips of the AAPA utilizing the tall oil of MAGEE at a temperature of 170 to 180 degrees C as disclosed by SMOOK. A person of ordinary skill in the art would be motivated to use such a cook temperature to obtain a reasonable cook time of 2-4 hours while not ruining the yield of the pulp [pg. 39 Table 4-4].

Art Unit: 1791

12. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Composition of American Distilled Tall Oils* by MAGEE et al., in view of US 6,084,061 LAWSON et al., hereinafter LAWSON and if necessary, Handbook for Pulp and Paper Technologists by SMOOK, hereinafter SMOOK.

MAGEE et al. teaches a distilled tall oil which is a mixture of fatty acids and resin acids (resin acids are rosin acids) and which have less than 5% unsaponifiables [see e.g. Table 1 Tall oil sample Hxs has 29% fatty acids, 67% Resin acids and 4.1% neutrals which are unsaponifiables]). The mixture of fatty acids and rosin acids falls within the instant claimed range. MAGEE does not disclose the cooking process by which the tall oil is produced. LAWSON discloses that AQ can be removed from tall oil and recycled back to the pulping process [column 3 lines 40-48]. The tall oil remaining with the AQ is good for pulping as it acts as a surfactant. LAWSON that either crude or distilled tall oil can work [column 3 lines 10-27]. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use AQ recycling from tall oil process of LAWSON in the pulping of wood chips which produce the tall oil of MAGEE. A person of ordinary skill in the art would be motivated to do so to because AQ improves yield and recycling saves AQ costs. Additionally the recled tall oil acts as a surfactant.

Neither, LAWSON or MAGEE disclose the common well known temperatures for cooking wood chips. It is the examiners position that an additional reference is not necessary for cooking temperature, however, should the applicant be unconvinced, SMOOK discloses the cooking temperature of 170 to 180 degrees C which falls within the instant claimed range. At the time of the invention it would have been obvious to cook the birch chips of the AAPA

Art Unit: 1791

utilizing the tall oil of LAWSON at a temperature of 170 to 180 degrees C as disclosed by SMOOK. A person of ordinary skill in the art would be motivated to use such a cook temperature to obtain a reasonable cook time of 2-4 hours while not ruining the yield of the pulp [pg. 39 Table 4-4].

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,298,120, Blackstone discloses adding both rosin acids and resin acids to wood during pulping [claim 5: said fatty acid is chosen from the group consisting of oleic acid, linoleic acid, adipic acid, abeitic acid maleic acid and stearic acid].

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1791

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. CALANDRA whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Thursday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/
Supervisory Patent Examiner, Art Unit
1791

/AJC/